

AMENDMENTS TO THE CLAIMS

The status of the claims as follows:

1. (Presently Amended) A chemical vapor deposition process for the preparation of a single-wall carbon nanotube, comprising:

contacting a carbon-containing gas composition with a porous membrane having a first side and a second side, wherein the first side is opposite to the second side, and wherein a thin catalyst layer is present on at least the first side of the membrane, wherein the thin catalyst layer comprises Al_2O_3 :Fe in molar ratio from about 50:1 to about 2:1, Al_2O_3 :Mo in molar ratio from about 100:1 to about 5:1, and Fe:Mo in molar ratio from about 15:1 to about 1:2; and

at a temperature sufficient to decompose said carbon-containing gas composition in the presence of said thin catalyst layer causing growth of a single-wall carbon nanotube,

wherein a pressure differential exists across the porous membrane, the pressure on the second side being less than that on the first side.
2. (Original) The process according to claim 1, wherein said growth of a single-wall carbon nanotube predominantly occurs on the second side of said porous membrane.
3. (Presently Amended) The process according to claim 1, wherein said growth of a single-wall carbon nanotube predominantly occurs between the thin catalyst layer and the first side of the porous membrane.
4. (Original) The process according to claim 1, wherein said thin catalyst layer is present only on the first side of said porous membrane.

5. (Original) The process according to claim 1, wherein said carbon-containing gas composition comprises methane gas.
6. (Original) The process according to claim 5, wherein said carbon-containing gas composition comprises methane, hydrogen, and an inert gas.
7. (Original) The process according to claim 6, wherein said inert gas is argon gas.
8. (Original) The process according to claim 1, wherein said porous membrane has a particle size less than about 2 micron.
9. (Presently Amended) The process according to claim 8, wherein said porous membrane has a particle size less than about 500 nm.
10. (Original) The process according to claim 1, wherein said porous membrane is selected from the group consisting of: alumina and stainless steel.
11. (Presently Amended) The process according to claim 1, wherein said thin catalyst layer is a catalyst composition comprising iron and molybdenum.
12. (Original) The process according to claim 11, wherein said catalyst composition further comprises alumina.
13. (Original) The process according to claim 1, wherein said temperature sufficient to decompose the carbon-containing gas ranges from about 670°C to about 800°C.
14. (Original) The process according to claim 1, wherein said pressure differential ranges from about 50 to about 500 Torr.

15. (Original) The process according to claim 14, wherein said pressure differential ranges from about 200 to about 300 Torr.
16. (Cancel).
17. (Cancel).
18. (Presently Amended) The process according to claim 47 1, wherein said thin catalyst layer has a ratio of Al_2O_3 :Fe:Mo of about 9:1: $\frac{1}{5}$.
19. 19-24. (Cancel).